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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/047,244	01/14/2002	Juho Jumppanen	15208	5900

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13  
EXAMINER

MENON, KRISHNAN S

ART UNIT	PAPER NUMBER
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1723

DATE MAILED: 09/09/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

10/047,244

Applicant(s)

JUMPPANEN ET AL.

Examiner

Krishnan S Menon

Art Unit

1723

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

- 1) ☒ Responsive to communication(s) filed on 6/27/03.
- 2a) ☒ This action is **FINAL**.                      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

**Application Papers**

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

**Priority under 35 U.S.C. §§ 119 and 120**

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

**Attachment(s)**

- 1) ☒ Notice of References Cited (PTO-892) ✓
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

## DETAILED ACTION

Claims 1-10 are pending.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

The factual inquiries set forth in *Graham v. John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
  2. Ascertaining the differences between the prior art and the claims at issue.
  3. Resolving the level of ordinary skill in the pertinent art.
  4. Considering objective evidence present in the application indicating obviousness or nonobviousness.
1. Claims 1-7 and 10 rejected under 35 U.S.C. 103(a) as being unpatentable over JP(H6-227994 in view of Chemical Engineer's Handbook, Perry and Green, p ages 13-53-13-57.

JP(994) discloses a process for separating essential oils comprising steam distillation (page 3, Para 0001) (applicant has steam distillation or extraction as alternate equivalents in claim 1) to a mixture containing essential oils and water, contacting with divinyl benzene polystyrene adsorbent or activated carbon, and then desorbing the essential oils (page 3, para 0001) as in instant claim 1 and 2. The water (hydrophilic phase) temperature is at 60° C (page 8, para 0020) as in instant claim 3; the hydrophobic absorbent is synthetic polymer – divinyl benzene cross-linked-polystyrene, activated carbon, etc, as in instant claim 4 and 5. (page 8: 0016,0017); material is Cyprus (page 3: claim 2) as in

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instant claim 6; Cyprus or yellow oils (page 11: 0030) as in instant claim 7; and the process is continuous as in instant claim 10 (page 11: 0029).

JP (994) is silent on recycling the hydrophilic solvent, water, as in claim 1 of the instant application. Recycling of solvent in extractive distillation is a common method taught in a standard textbook of Chemical Engineering, such as Chemical Engineer's Handbook, by Perry and Green, 6<sup>th</sup> edition (see pages 13-53 through 13-57, and the figures). It would be obvious to one of ordinary skill in the art at the time of invention to recycle the water used in the process. One of ordinary skill in the art at the time of invention could choose to recycle water in the process of JP (994) to recycle solvents in extraction/distillation processes for recovering the solvent and the sensible heat of the solvent as taught by Perry and Green.

2. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over JP(H6-227994 in view of Chemical Engineer's Handbook, Perry and Green, pages 13-53-13-57 as applied to claim 1 above, and further in view of Chromecek (US 4,962,133).

Claims 8 and 9 have the additional limitations, chromatographic separation of the essential oil (claim 8) and separating Orris oil to myristic acid and irone (claim 9). JP(994) in view of Chemical Engineer's Handbook is silent on the word 'chromatography' as the process even if JP(994) describes adsorption and then eluting/desorbing with another solvent as in chromatography, as in claim 8 of the instant application; and does not teach separating Orris oil to myristic acid and irone. Chromecek (133) teaches use of styrene-divinyl benzene type carrier/adsorbent media for essential oils including orris and rosemary oils (col 4: lines 6-19; col 15 line 26 – col 16 line 16). It would be obvious to one of ordinary skill in the art at the time of invention to choose the teachings of Chromecek (133) and make a chromatographic column to

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separate the essential oils and further fractionate the essential oils from Orris to its components, using the process of JP(994) in view of Chemical Engineer's Handbook teachings to separate the components as taught by Chromecek.

### *Response to Arguments*

Applicant's arguments filed 6/27/03 have been fully considered but they are not persuasive.

Applicant's only argument re patentability of the pending claims is the recycling of the hydrophilic solvent in claim 1. To this end, applicant points out the differences between 'extractive distillation' and 'steam distillation', points out that the applicant uses steam distillation whereas Perry, the secondary ref, uses extractive distillation, and contends that one of ordinary skill in the art would not be motivated to recycle steam in steam distillation based on the teaching in Perry of extractive distillation.

Applicant's detailed argument goes into spelling out the differences between distillation, extractive distillation and steam distillation, which are not relevant with respect to the claims, especially, claim 1. Claim 1, in indent (i) states: (i) subjecting the essential oil-containing material to steam distillation using a steam distillation vessel or extraction using an extraction vessel to produce a mixture containing the essential oil and at least one hydrophilic phase; and indent (iii) states 'recycling the hydrophilic phase'. Since the applicant has claimed recycling the hydrophilic phase in steam distillation *or extraction*, this argument is not relevant.

The recycling of hydrophilic phase is also not patentable by applicant's own admission of prior knowledge. See last paragraph of page 2 of the specification, which states: "A further known measure in such processes is the recycling of the aqueous phase from the decanter into the steam distillation vessel".

In response to applicant's argument that there is no suggestion to combine the references, the examiner recognizes that obviousness can only be established by combining or modifying the teachings of the prior art to produce the claimed invention where there is some teaching, suggestion, or motivation to do so found either in the references themselves or in the knowledge generally available to one of ordinary skill in the art. See *In re Fine*, 837 F.2d 1071, 5 USPQ2d 1596 (Fed. Cir. 1988) and *In re Jones*, 958 F.2d 347, 21 USPQ2d 1941 (Fed. Cir. 1992). In this case, the recycling of solvent is a common practice, knowledge generally available to one of ordinary skill in the art, and is taught by standard text books like Perry's Chemical Engineers' Handbook. While the applicant's cited reference Ziegler, 1998 (applicant has not provided a copy of the reference nor enough information to obtain a copy of the reference) may be defining extractive distillation as a process where the solvent is removed from the 'bottoms' to differentiate it from steam distillation, both processes use a solvent to extract a component, and the question is whether that solvent could be recycled or not. Perry ref is used to point out that solvent recycling is a common practice. To support this fact, the examiner has included an additional reference, US 3,714,033, which specifically teaches recycling of water and steam in a steam distillation process.

In response to applicant's argument that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Re the argument that Chromecek contains no teaching of recycle of hydrophilic phase, Chromecek was used only to show chromatographic separation of orris and rosemary oils.

*Conclusion*

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Somekh (US 3,714,033) teaches recycling water/steam in a steam distillation process.

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Krishnan S Menon whose telephone number is 703-305-5999. The examiner can normally be reached on 8:00-4:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wanda L Walker can be reached on 703-308-0457. The fax phone number for the organization where this application or proceeding is assigned is (703) 872-9306.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

Krishnan Menon  
Patent Examiner

  
W. L. WALKER  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 1700